ABSTRACT

A shared memory packet switching device includes: a shared memory providing a shared memory space; an input logic unit associated with at least one receive port, and being operative to determine whether the associated receive port is saturated by determining whether a number of packets received via the associated receive port and currently stored in the shared memory exceeds a drop threshold value; a packet routing control unit operative to determine a destination one of the transmit ports for each of the received data packets; and an output logic unit associated with at least one of the transmit ports, the output logic unit being communicatively coupled with the packet routing control unit, and being operative to determine whether the associated transmit port is congested by determining whether a number of packets currently stored in the shared memory that are to be transmitted via the associated transit port exceeds a congestion threshold value, and also being operative to generate an associated output full signal indicative of whether the associated transmit port is congested. The input logic unit is responsive at least in part to each of the output full signals, and further operative to cause a selected packet received via the associated receive port to be dropped if the associated receive port is currently saturated and the output full signals indicate that a destination transmit port associated with the selected packet is currently congested.